

# ANAEROBIC COMPOSTING



## WHAT IS ANAEROBIC COMPOSTING?

Anaerobic composting is the slow decay of organic matter through fermentation. Unlike aerobic composting, the pile will not heat up. Microorganisms that thrive in a low-oxygen environment (mostly bacteria) reduce nitrogen-containing or sulfur-containing compounds found in organic matter to yield humus, organic acids, and gases.

## SETTING UP YOUR ANAEROBIC SYSTEM.

Ideally, two anaerobic composting bins should be used to allow for continuous composting. While one is finishing composting, the other can be filled. If you plan to construct a homemade composting bin, be sure to choose a bottomless barrel with a lid that seals tightly and has a capacity of 35 gallons or more (see section 5).

An anaerobic composting bin should be located in a spot with good drainage. Accessibility, aesthetics, and convenience should also influence where your bin is placed. If located under or next to fruit trees, they will benefit from the added moisture and nutrients. To prevent the contamination of water, avoid a bin location near waterways or drainage courses. To prepare the site, dig a hole 6 to 12 inches deep, set the bin into the hole, and pack dirt firmly around the bin. Lining the bottom of your bin with 1/4" bird wire will fortify it from scavengers, but will allow earthworms to enter.



## MATERIALS TO ANAEROBICALLY COMPOST...

Non-fatty kitchen scraps  
Houseplant clippings  
Grass clippings (small amounts)  
Egg shells  
Coffee grounds and filters  
Tea bags  
Pet and human hair  
Wood ash (small amounts)  
Untreated paper towel and tissue

## MATERIALS NOT TO ANAEROBICALLY COMPOST...

Pet or human waste (contains pathogens and parasites)  
Meat and bones  
Animal fat or oil  
Dairy products  
Barbecue briquettes or ashes  
Woody yard trimmings  
Large Quantities of Leaves

## HOW THE SYSTEM WORKS.

Anaerobic composting works best with nitrogen-rich materials such as non-fatty kitchen scraps and soft green clippings. **Avoid adding carbon-rich materials such as dry leaves, sawdust and woody yard waste.** (These materials will retard or even halt the anaerobic composting process and should be composted aerobically.)

**Do not open your anaerobic composting bin more than two times per week.** Over exposure to oxygen impedes beneficial microorganisms and slows efficient composting. Frequent trips to the composting bin can be reduced by simply storing daily food scraps in a sealed garbage pail that can be placed under the sink or in the refrigerator.

Two inches of soil or finished compost should be added to your bin once a month to inoculate it with the necessary microorganisms and to keep the fruit fly population down.

## INCREASED SURFACE AREA SPEEDS THE PROCESS.

Once again, the more surface area the microorganisms have to work on, the faster the materials will decompose. Chopping or bruising kitchen scraps and soft green clippings will speed up the composting process.

## **KEEP IT MOIST.**

**Always keep the materials in your anaerobic composting bin moist.** If the material gets too dry, it will not compost. Proper moisture content will help to exclude oxygen from your compost and keep fruit flies and ants from invading your bin. An anaerobic composting bin should be watered at least once a month or before it is dry. It can never be overwatered, so take advantage of household rinse waters which do not contain detergents, bleach, or boron/borax to water compost.



## **TIME AND TEMPERATURE.**

Anaerobic compost will require up to three months to mature once the bin is full depending on the moisture content and the type of materials being composted. Although this system will not achieve high, sustained temperatures, pathogens dangerous to people and pets will be destroyed over time.

## **HARVESTING YOUR FINISHED ANAEROBIC COMPOST.**

Organic material added to the composting bin will, over time, reduce in volume due to the fermentation process. When the bin reaches full capacity, a second bin can be started. Finished compost will be dark brown and moist. It should be allowed to dry and aerate for one to two weeks before using. To harvest the finished compost, simply pull up the container, shovel the contents aside, and place the bin back in the hole. Anaerobic compost can be applied to the yard and garden using techniques described in section 6.

## KEEPING YOUR ANAEROBIC COMPOSTING BIN HEALTHY.

A moist anaerobic composting pile with a "slimy" consistency and a slight sulfur odor are sure signs that your bin is working properly. Do not be alarmed by the presence of insect larvae, worms, beetles, and other scavenging organisms. They are all part of the composting process and also indicate a productive bin.

## TROUBLESHOOTING.

SYMPTOM	PROBLEM	SOLUTION
Ant population around base and in bin.	Bin is dry.	Soak bin contents with water. Pack down if necessary. <b>Never spray pesticides.</b>
Interior of composting bin has large fruit fly population.	Bin is dry.	Soak bin contents with water, add two inches of soil, limit bin opening to one or two times per week. <b>Never spray pesticides.</b>
Bin materials will not compost.	Too much woody waste has been added, lack of moisture.	Soak bin contents with water, discontinue adding woody waste.
Outside of bin is being dug up.	Opossums, skunks, raccoons or other scavengers are feeding on your bin's compost and earthworms.	Line the bottom and sides of the composting bin with 1/4" bird wire. Discontinue adding fatty kitchen scraps.
Soup-like compost with a large fly population.	Insufficient drainage (rarely occurs).	If homemade bin, be certain that the bottom of the composter is removed, relocate to an area with better drainage.

A **healthy** anaerobic bin often has traits considered **unhealthy** in an aerobic bin, so always read your directions carefully, and contact the County Composting Hotline whenever you have questions or need technical assistance.